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# HomeSense

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## Executive Summary

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HomeSense is a proposed new smart home monitoring solution by Honeywell Inc and will be part of the Resideo smart home brand. This marketing plan for HomeSense will describe the problem we are solving, the solution, our target market, our ideal customer, and go to market strategy.

Based on market research, we have identified the residential market to be the most suitable market to launch the product. Currently there are only two solutions in the residential market for utility monitoring and those are only focused on energy consumption. HomeSense provides additional capabilities beyond the existing solutions to the residential market which will allow us to be successful. We have estimated the total available market for the smart home monitoring products to be \$14 billion while the total serviceable available market is 2.5% of the TAM (\$35 million) and 1% Serviceable Obtainable Market (\$350 K). Our initial SOM represents our conservative goal to target and gain our first 1,000 customers.

Customer interviews identified frustration when trying to understand utility bills and uncertainty on how to lower payments. HomeSense is designed to solve this problem by helping homeowners track energy and water consumption in their homes to drive changes in consumption behavior and to lower utility bills.

The go to market strategy for HomeSense will be primarily focused on building partnership and sales channels with energy providers. Our year one focus will be to target energy providers (PGE, PSE, PG&E) in three specific regions on the west coast of the United States. Also, HomeSense will be sold through the Honeywell Smart Home Website (Resideo) and through Amazon. In the next 2 years HomeSense will continue to grow partnerships with energy providers throughout the United States as well as investigate launching into the Property Management market.

## Introduction

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The demand for smart home solutions is increasing year after year as homeowners are becoming more interested in simplifying their lives and gaining more comfort. In order to meet this demand, companies are venturing into the smart home automation business and focusing on creating solutions that integrate smart equipment into a system and allowing communications between people and devices and between the devices themselves. HomeSense strives to provide customers with the knowledge to make more energy efficient decisions and in turn build more energy efficient homes. Through this marketing plan we will walk through how we will enter the smart home market with a novel product, build loyal customers and grow to be the name in utility monitoring.

## Situational Analysis / Company Profile

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### Honeywell Background

Resideo is the brand of Honeywell International Inc. that deals with production and selling of smart home products. The products are classified into five portfolios including Heating and Cooling, Home air Quality, Safety and Security, Featured products and Apps & Services. Resideo has several smart home products for example smart home security products, cameras, doorbell, light switch timers, smart thermostat, smart alarm solutions and water leak detectors among other products. Resideo also offers software applications for users that help users access the smart home devices via mobile phones. The applications include the Honeywell Home App, Resideo Home App, Total connect App and Total connect Comfort App [].

### Smart Homes Concept

A smart home is a home setup with devices and appliances that can be accessed and controlled remotely through an Application Programming Interface (API). Smart homes include devices that allow communication between a range of devices and also between people and devices. Home components that are commonly integrated in a smart home infrastructure include the security system, thermostats, home appliances and entertainment system among others. Smart home technologies are geared towards giving consumers enhanced convenience as well as many others that are likely to emerge as technology and consumer preferences both evolve

## Product

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### Product Description

HomeSense uses [Non-Intrusive Load Monitoring \(NILM\)](#) technology researched and presented by MIT. This technology involves non-intrusive sensors that allow monitoring energy consumption of all appliances in a customer's home. The central monitoring system then uses that data along with machine learning algorithms to provide insightful real-time usage data and to learn the behavioral patterns of the appliances to detect anomalous behavior.



Figure 1: HomeSense

## How does it work

### The Sensor

- Attach the HomeSense monitor sensors to your electrical panel and/or water meter
- Download HomeSense app and setup the monitor through your phone
- HomeSense starts learning about your home

### The App

- Track appliance by appliance in your home to see what is taking up energy or who uses the most water in the shower
- Integration with Alexa gives you control to turn off existing smart appliances.
- See in real time how much money you are saving by understanding where your energy and water usage is going



Figure 2: HomeSense App

## Features

- Provides easy to understand, detailed energy consumption (electricity, water) that can be accessed via the HomeSense app (iOS/Android) and HomeSense website.
- Integrates seamlessly with existing smart home interfaces such as Google Home, Amazon Echo. You can ask "Alexa, what is the cheapest time today to charge my Tesla?"
- Predicts faults and leaks for all appliances in your home.

## SWOT Analysis

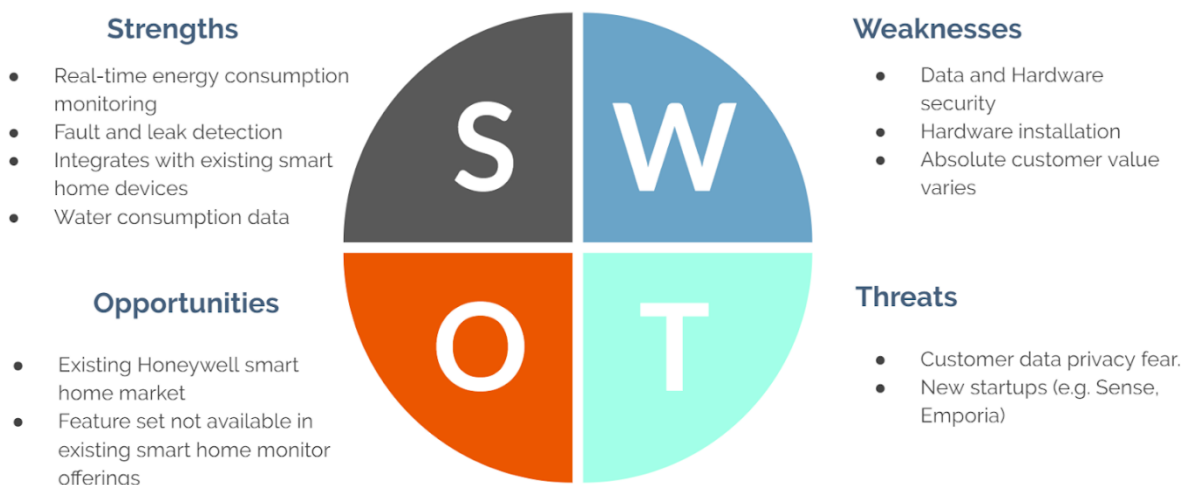


Figure 3: SWOT Analysis

SWOT analysis (Figure 8) above gives a summary of the strengths, weaknesses, opportunities and threats that may impact how the HomeSense will be deployed in the marketplace.

### Strengths

Users will be able to monitor energy and water consumption which will enable them to identify areas of waste and create strategies to optimize usage, leading to money savings. HomeSense will also allow integration with other smart devices including Alexa, Google Home and other smart home appliances. HomeSense will also enable fault detection through predictive analysis. This will allow users to respond to potential faults before they become expensive problems.

### Weaknesses

The concern of data and hardware security is one of the major weaknesses with the HomeSense product. The application will relay sensitive information about users and their day-to-day operations. There is therefore the risk that the system can be hacked, or data intercepted. Another weakness is that installation of the sensors provided by HomeSense is recommended to be done by trained personnel. Customers who are sensitive about personal and home privacy are likely to find the product unattractive. Lastly, customer value can vary from one customer to another based on home size, habits, age of the home etc.

### Opportunities

HomeSense can leverage the already existing Honeywell smart home market and brand in introducing the new product to the market. Customers who are loyal to the Honeywell smart home brands are likely to gain interest in the new product. HomeSense has limited competitors in the Residential market.



## Threats

Concern of data privacy will be a major threat to the market performance of the HomeSense product. Still, government regulations on data privacy can potentially affect the future demand of smart home products. The threat of competition from new tech-based startups can also disrupt market penetration of the HomeSense product. Key competitors in this regard include Emporia vue and Sense who have products that include some of the functionalities of the HomeSense app

## Market Analysis

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### Market Segments

The technology behind HomeSense has applications in various markets. We started with four markets where this technology would be valuable.



Figure 4: Market Segments

### Manufacturing/Industrial

#### Why this segment?

- Market values fault detection and consumption statistics because these metrics have a direct impact on the revenue.
- Minimal maintenance because of its passive sensors compared to existing monitoring solutions.

#### What are the challenges?

- Existing solutions that already solve the energy management problem and may be difficult to displace.
- Requires feature set the initial proposed product does not have.

#### Verdict: Not Selected

We chose not to go with this market because we believe the initial feature set of the product is not suitable for this market. We also did not have much visibility into what the real pain points are in this market and way to validate assumptions if we made any.

## Defense

### Why this segment?

- Market focuses on fault detection and requires high accuracy.
- There are a large number of active sensors already present on defense equipment and are very expensive to maintain.
- With HomeSense's technology it is possible to reduce the number of sensors required and significantly lower the cost of maintenance of these equipments.

### What are the challenges?

- High security requirements (FEDRAMP) which is a large hurdle for entry and customer acquisition costs are high. (<https://www.govtech.com/opinion/Can-GovTech-SaaS-Companies-Succeed.html>)
- Time consuming in developing the product to meet military standards.

### Verdict: Not selected

We chose to not go with this market due to challenges in making the product meet military standards that will cause the go to market to be much slower. It will also be very difficult to test this market to see how valuable the product would be.

## Property Management

### Why this segment?

- Market focuses on consumption to reduce vacancy costs and keeping property repairs to a minimum, through fault detection.
- HomeSense will provide insightful data about the consumption in vacant units and can prevent heavy emergency repair costs because of the leakage and fault detection features in HomeSense.
- There aren't many competitors that offer such a solution in this market which makes HomeSense an attractive proposition.

### What are the challenges?

- The adoption of new technologies in this market is very slow due to the bureaucratic nature of the offices that make buying decisions.
- There needs to be significant saving data available to back the product to justify the investment cost to customers.

### Verdict: Not Selected

While we believe that this is an attractive market, this will not be the right initial market to launch the product due to the lack of data to prove the technology works at large scale level. This market will be worth pursuing once we have data collected from other markets to make HomeSense a compelling value proposition here.

## Residential (Primary)

### Why this segment?

- MarketWatch estimates the global smart home market to be \$55.65 billion. It also estimates that the market will grow to \$175.24 billion by 2025 []. Based on this data, customers in this segment are already adopting smart devices at a high rate.
- With the number of devices increasing in homes every day, tracking energy consumption will become very difficult.
- There are 2 competitors in the market that provide a solution for this problem.

### What are the challenges?

While early adopters and technology enthusiasts might be attracted to the product in order to become mass market there needs to be evidence that the product saves money.

### Verdict: Selected

Based on the growing smart home market HomeSense is positioned in, limited competitor landscape, our ability to test the market at a low initial marketing cost and validate assumptions about the customer's pain points we believe this is the most attractive market for us to initially launch HomeSense.

## Target Market Summary

Understanding the residential market space was critical to our decision to start marketing HomeSense towards homeowners. Through our customer interviews we found that the residential market had a problem and a problem that we could solve. Given the growing smart home device market and number of homeowners in the US, we could grow in this space and be successful.

Calculating our Total Available Market (TAM) we initially took the current number of homeowners in the US which is roughly 210 million<sup>1</sup>. For our Serviceable Available Market (SAM) we focused on homeowners that owned a smart home device which is 28% of homeowners in the US or 59 million<sup>2</sup>. We diverted from this approach as calculating what our Serviceable Obtainable Market (SOM) was becoming difficult as targeting even a small percentage of 59 million homes was too wide a scope for our initial product offering.<sup>3</sup>

### TAM

From here the HomeSense team decided to narrow our focus and target 3 specific regions and of those regions we will partner with those market's energy providers. The 3 energy providers are:

1. Portland General Electric (PGE) - Services 800,000 customers in the Portland Metro area. Geographically located where the HomeSense marketing is launching the product from. Customer interviews were done in the Portland area, so we have a greater understanding of the Portland customer.

<sup>1</sup> <https://www-statista-com.proxy.lib.pdx.edu/statistics/1036066/homeownership-rate-by-age-usa/>

<sup>2</sup> <https://www-statista-com.proxy.lib.pdx.edu/statistics/799986/smart-home-technology-product-ownership-us-uk-canada/>

2. Puget Sound Electric (PSE) - Services 1 million customers in the Seattle Metro area. Culturally similar to Portland which helps in our understanding of the Seattle customer. Geographically close to the HomeSense team.
3. Pacific Gas & Electric (PG&E) - Services 5.4 million customers across California. Of this total we are focusing on the San Francisco area which has ~2 million customers. This is a high-tech market and is also geographically/culturally similar to our other two markets.

Focusing on these 3 energy providers, we now have a TAM of ~4 million (PGE + PSE + PG&E customers). At the low end of our pricing (\$350) this comes out to \$14 billion.

## SAM

Our Serviceable Available Market is calculated based on the number of homes within our 3 target regions who have signed up or been enrolled in a Peak Time Rebate program. It was reported that PGE has 20,000 customers who have enrolled in a Peak Time Rebate program which comes to 2.5% of the total PGE customer base. Using this 2.5% as a benchmark across the other two regions we can assume our SAM is ~100,000 which comes out to \$35 million.

- PGE:  $800,000 \times 2.5\% = 20,000$
- PSE:  $1 \text{ million} \times 2.5\% = 25,000$
- PG&E:  $2 \text{ million} \times 2.5\% = 50,000$

## SOM

Our Serviceable Obtainable Market was then conservatively calculated that we could convert 1% of our SAM to paying customers which comes out to \$350,000 in the first year. This was based on 3 things:

1. Our first-year focus is on getting our first 1,000 customers.
2. Initially focusing on a smaller target allows us to not be everything to every market and customer.
3. Will keep marketing costs down as we will only focus marketing efforts on obtaining these 1,000 customers. More on marketing strategy/costs in a later section.

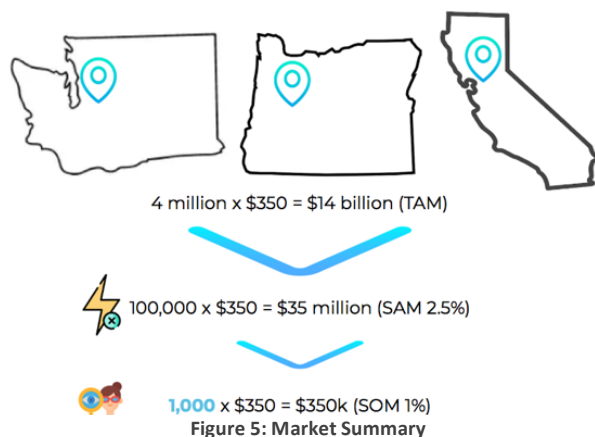


Figure 5: Market Summary

## Customer Analysis

Several assumptions about the needs of the customer were made during the initial design of the product. Validation of the problem and assumptions made were vital to understanding what would resonate with our customer. We used 15 personal interviews and a few customer surveys to identify and validate customer pain points. Based on the patterns of the responses in the interviews the customers were categorized into 4 personas.

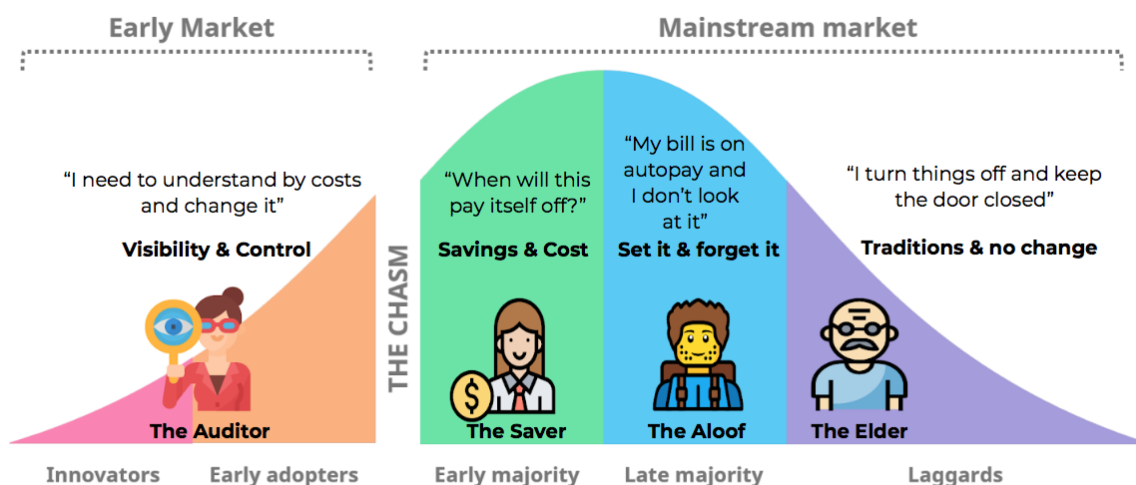


Figure 6: Technology Adoption Curve

### The Auditor (Ideal Customer)

This persona is focused on being able to know what's going on in their home and wants to be able to make changes to their behavior.

- Values understanding and control - tracks their utility costs and makes attempts to change their monthly bills.
- Excited about new technology.
- They are homeowners & enrolled in energy rebate program(s).
- They already use smart home device like Nest.



#### Early Market

As our ideal customer we will target this persona with our year 1 marketing strategy.

## The Saver

Shares several similar attributes to The Auditor persona but is a cautious buyer.

- Focused on saving money over control or understanding.
- More cautious buyer - wants to know the investment will be worth the upfront cost



### *Early Majority*

To cross the chasm, we will need to convince The Saver that HomeSense will in fact save them money. To do this we will use customer reviews and stories to target this persona. Seeing real world examples of the possible utility cost savings will bring us into the early majority and beyond the chasm.

## The Aloof

This persona is not keen on the effort required to set up, track or make changes to behavior for savings.

- Does not track or care about energy usage.
- Utility bills are on autopay.
- Values ease of use or limited effort products over cost savings.



### *Late Majority*

To attract The Aloof we will need a fuller feature set around automation and built-in integrations. This persona doesn't want to track an app or look at energy bills, they want to have something in place that works and they don't need to think about it. Building integrations with other smart home devices to automatically control, for example when a dryer is run, will bring us into the late majority.

## The Elder

This persona believes in their traditions and doesn't want to change.

- Doesn't value technology to drive decision making.
- Uses traditional methods to save on utility cost - keeping windows closed, turning the heat off when not at home.
- Values cost savings but believes in their methods and doesn't want to change.



### *Laggard*

We do not think that we can convince The Elder to proactively purchase our product so to get into the laggard stage of the adoption curve we will be targeting changes to utility monitoring standards for homeowners. Pushing policy and standard changes that require a product like HomeSense to be installed with new water meters or electrical panels will drive our product into this latter stage of the market.

## Competition Analysis

Figure 9 below gives a summary of the nature of competition in the smart home industry. The competitive environment can be classified into direct competitors, indirect competitors, and another category that includes companies that offer similar products for a different market segment.

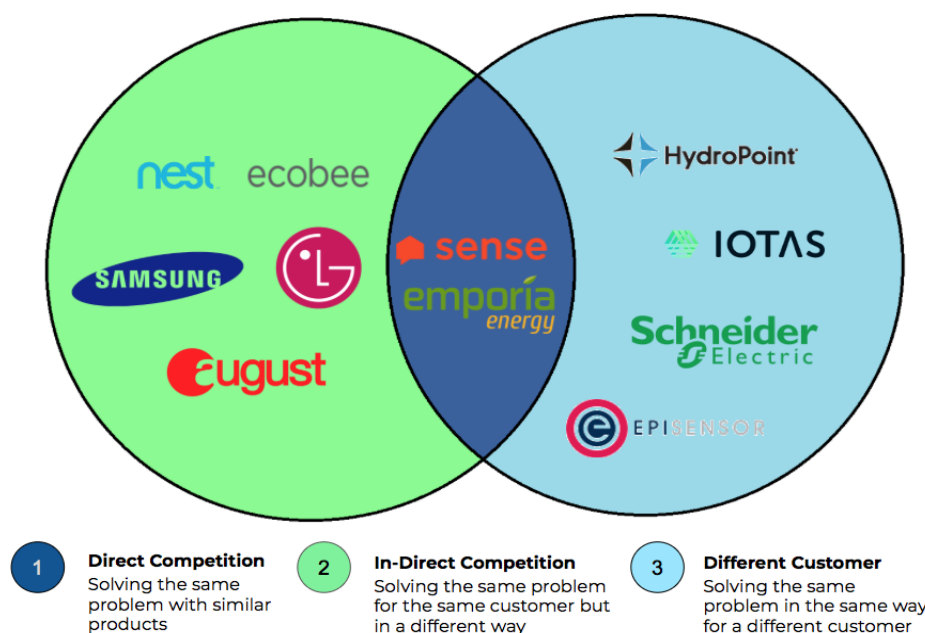


Figure 7: Competitive Analysis

### Indirect Competition

The image above shows a vendor list in-indirect competitors are companies that offer products that solve the same problem for the same customer but in a different way. For example, Nest allows customers to manage the HVAC systems in their apartments efficiently and provides information about energy consumption. Similarly, other smart appliances have energy management features built in. Some of the companies in this category include Nest, Ecobee, Samsung, LG and August. While these products provide some information about energy management for those specific devices, it still only partly solves the customers problem. The customer still does not have a complete picture of the other “non-smart” devices in their apartment that may still be consuming a lot of energy. Also, the information will be scattered across several apps for each of these smart appliances.

Why is HomeSense better?

HomeSense will provide a complete picture of all appliances in the home and in a single location. We believe that HomeSense provides a better way of solving the problem the customer faces which we do not think the in-direct competition addresses.

## Direct Competition




Feature	 HomeSense		 sense	
Price	\$399	\$349	\$299	\$99
Real-Time Monitoring	✓	✓	✓	✓
Auto Appliance detection	✓	✓	✓	✗
Leaks and Fault Detection	✓	✓	✓	✗
Device Management	✓	✓	✓	✗
Water consumption data	✓	✗	✗	✗

Table 1: Direct Competition

Direct competitors are companies that provide solutions for solving problems the same problems that HomeSense is designed to solve. The major direct competitors include Sense and Emporia Energy. Table 2 is a summary of the comparison of HomeSense with the major competitors Sense and Emporia vue energy in terms of costs and features.

The initial cost of Emporia product is \$99 making it the least expensive product among the three with the installation cost of \$99. It provides the least number of features which explains the low cost of the product.

Sense Energy Monitor has features such as real-time monitoring, auto appliance detection, leak and fault detection and device control and management. The initial cost installing Sense is \$299.

The basic HomeSense solution with the electricity consumption monitoring features only is offered at a price of \$349. The upgraded product includes the added water consumption monitoring feature as is offered at a price of \$399.

### Why is HomeSense better?

We believe that the intelligence that HomeSense has to offer through applying machine learning and data analysis to eventually drive automation of all appliances in a home cannot be offered by a low cost product like Emporia Vue and is a vital feature for the early majority and late majority customers.

As for competing with Sense that offers a similar feature set and price range, we believe that our product has an important advantage in terms of an additional water consumption monitoring feature over Sense. Also, HomeSense will already feature integration and automation capabilities with other Honeywell smart home products that will not be available in Sense. The brand value of Honeywell is another important advantage to consider over Sense.



Based on the brand value and superior feature set we plan to compete at a premium price amongst the existing competitors and succeed as a product.

## Different Customer Segment

There are also companies that offer the same products, but they focus on a different market segment. Companies in this category include Schneider Electric, IOTAS, EpiSensor and HydroPoint. These companies provide energy management solutions but focus specifically on property management and industrial markets. At this point, we don't consider these as threats since they target a different market and their products and technology are not designed for the Residential market. In the future when we venture into these markets they will become potential competitors.

## Marketing strategy

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### Pricing

HomeSense is going to offer two price points:

- \$349: Includes only energy monitoring
- \$399: Includes energy & water consumption monitoring

Building off the brand value of Honeywell, we decided to set our prices higher than the direct competition for similar products (energy only monitoring) while driving customers to the \$399 product that includes both energy and water monitoring. We expect to elicit the reaction of "it's only a little more for both products."

## Demand Generation

### Year 1

To target our ideal customer, “The Auditor”, we are going to use three techniques that we believe will be effective in getting to our goal of our first 1,000 customers. The methods we will use are:

	Email Campaign	Online Store (Amazon/Honeywell)	Energy Provider Rebates
# Views	400,000 (10% TAM)	100,000 (.35% CTR)	115,000 (2.5% each region)
Conversions to leads	40,000 (1%)	10,000 (10%)	15,000 (10%)
Conversions to sales	400 (1%)	100 (1%)	600(4%)
Revenue	\$160k/\$140k	\$40k/\$35k	\$240k/\$210k
Cost	\$25,000	\$10,000	\$75,000


Table 2: Demand generation funnel

1. Energy Provider links - Partnering with the 3 target energy providers and getting listed within their site for a rebate program on our product. This is already done with Nest (\$100 rebate when bought through PGE) and getting HomeSense listed on these programs is critical to the product’s success. Cost is calculated by the salary of one Business Development person. (Figure 8)
2. Email campaign - Email marketing campaign that will be sent to households in our target regions that have signed up for Peak Time Rebates or other energy savings programs. We will partner with the energy providers to obtain our contact list. Cost is calculated as subscription to MailChimp for being able to send to up to 400,000 contacts. (Figure 9)
3. Selling through Amazon/Direct site - HomeSense will be available through Amazon and the Honeywell direct site under the Resideo brand. We will purchase advertising on Amazon which is where our ideal customer makes most of their purchases. Cost is calculated by a specified advertising budget with Amazon that will get the product 100,000 views. (Figure 10)

### Financial Projections

Revenue: 1100 units x \$350 = \$385,000

Marketing costs: \$110,000 (1 Business development Professional + Mail chimp email + Amazon Advertising)



ENERGY SAVINGS

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[Thermostats](#)

[Lighting](#)

[Water Heaters](#)

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## Heating & cooling

**Limited-time special discounts** are on now!

- Feb. 15 to Mar. 15, 2020, get: Up to \$1,800 off a Daikin ductless heat pump
- Finance your energy-efficient heat pump on your PGE bill

Save with these special heat pump incentives:

- **\$200 heat pump instant discount** from PGE.
- **\$700 on an efficient heat pump** from Energy Trust.
- **\$800 cash incentive on a ductless heat pump** from Energy Trust.
- **\$250 for heat pump controls** from Energy Trust.
- **On-bill financing of your energy-efficient heat pump system:** Re-payment is easy — simply make monthly installments through your PGE bill. Ask your contractor about eligibility and terms.

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## Smart thermostat

Have a ducted heat pump or central A/C?

- Up to **\$50 from PGE** for joining our smart thermostat program, and earn more every year.
- **\$100 instant coupon from Energy Trust of Oregon**, good at select retailers, in-store or online.

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## Smart monitoring through HomeSense

- **\$100 instant discount from Energy Trust** Self-installed monitoring device.

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## Heat pump water heater

- **\$500 instant discount from Energy Trust** (depending on efficiency level). Can be self-installed.

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## Additional offers and incentives

You're eligible for cash-back from **Energy Trust of Oregon** for qualifying energy-efficiency and renewable-energy improvements. Incentives are available for:

- **Weatherization**, including insulation and windows
- **Heating and cooling**, including heat pumps
- **Select ENERGY STAR® washing machines**
- **Renewable projects**, including solar electric

See **Customer News** for current sweepstakes and other special offers from PGE.

Figure 8: Energy Provider

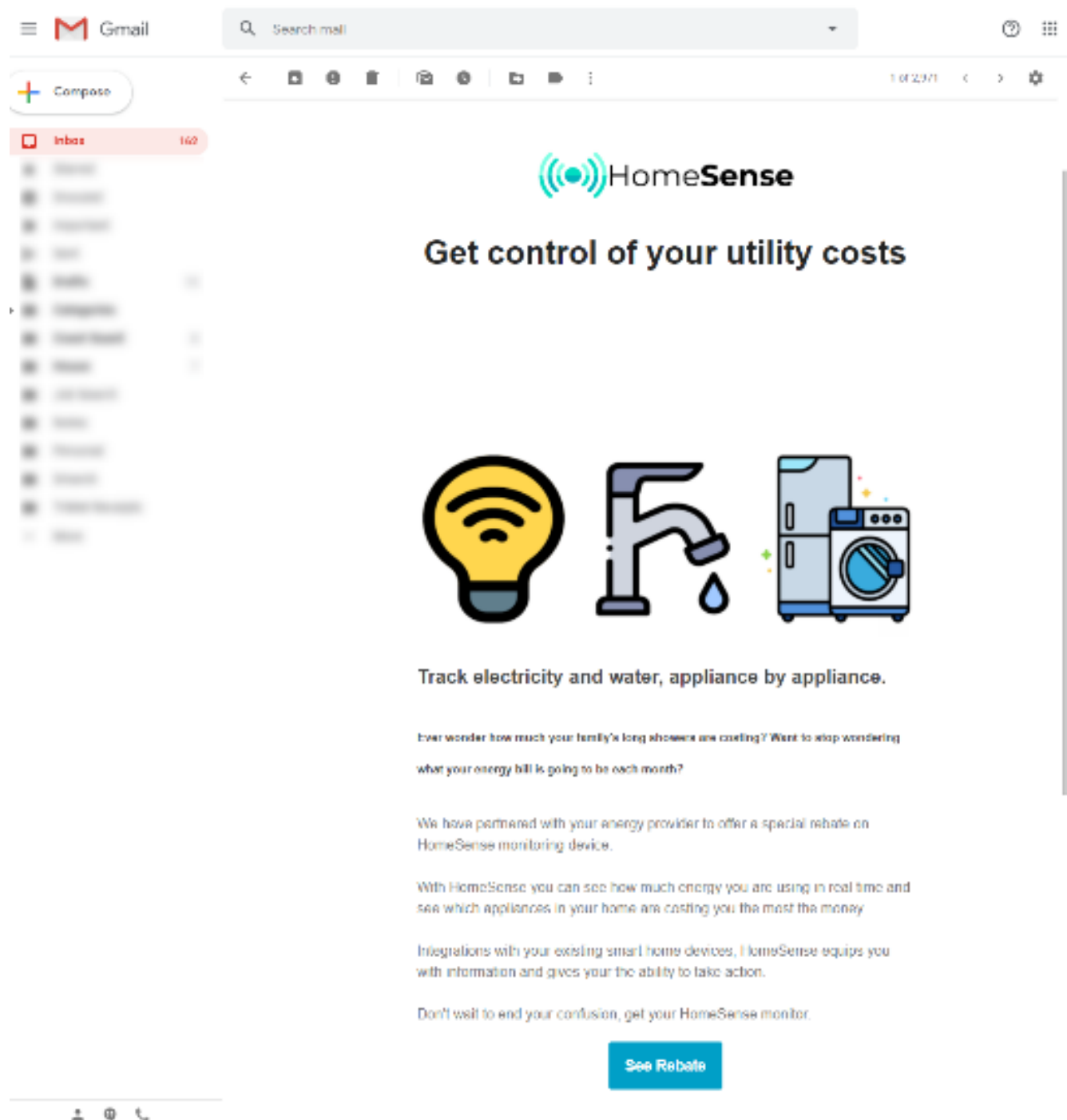
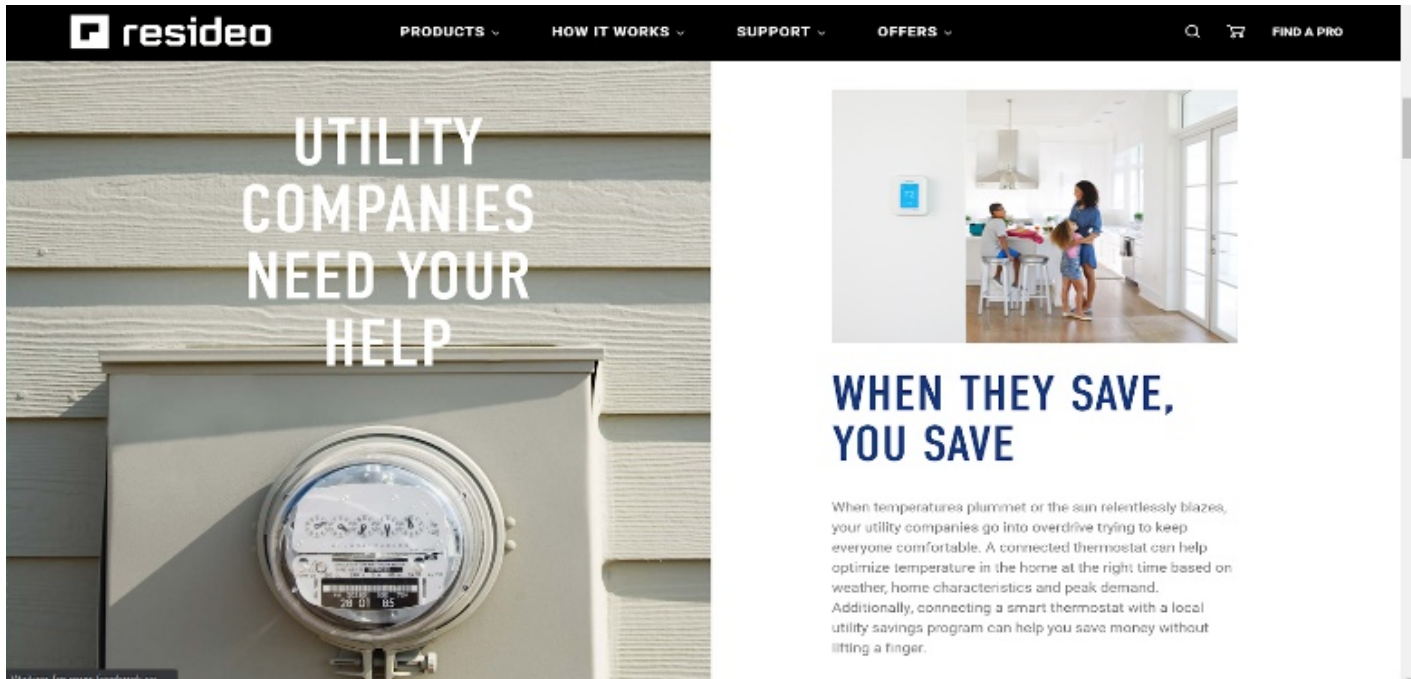


Figure 9: Email Marketing



The image shows a screenshot of the Resideo website. The header is black with the Resideo logo on the left and navigation links (PRODUCTS, HOW IT WORKS, SUPPORT, OFFERS) in the center. On the right of the header are search and shopping cart icons, and a 'FIND A PRO' link. The main content area features a large image of a utility meter on a wall with the text 'UTILITY COMPANIES NEED YOUR HELP' overlaid. To the right of this image is a smaller image of a family in a kitchen with a smart thermostat on the wall. Below this image is the headline 'WHEN THEY SAVE, YOU SAVE' and a paragraph of text.

**UTILITY COMPANIES NEED YOUR HELP**

**WHEN THEY SAVE, YOU SAVE**

When temperatures plummet or the sun relentlessly blazes, your utility companies go into overdrive trying to keep everyone comfortable. A connected thermostat can help optimize temperature in the home at the right time based on weather, home characteristics and peak demand. Additionally, connecting a smart thermostat with a local utility savings program can help you save money without lifting a finger.

Figure 10: Direct site to sell the product

### *Year 2*

In year 2 we plan to extend the list of energy providers that HomeSense will feature in, to 20. With this expansion of energy providers, we target selling 5,000 units this year. With 1000 units sold in the first year, we plan to focus on targeting the “The Saver” persona in year 2 by collecting customer savings in terms of stories and blogs from existing customers. This will help make the product more attractive to this persona. In addition to this, we also plan to extend the marketing effort to target customers that have solar panels to help track energy production vs energy consumption.

#### **Financial Projections**

Revenue: 5000 units x \$350 = \$1.75 million

Marketing costs: \$350,000 (1 Additional Business development Professional + Expanded email list)

### *Year 3*

In year 3 our goal is to extend our supported energy provider list to 50 which we believe will allow us to meet the plan of selling 10,000 units. Also, to move through the adoption curve we will look at policy and standards changes that would require the use of a water and energy monitoring to be installed with new meters or electrical panels. We will start within a single region to prove out that 1) We can be successful in changing policy and 2) that this is an effective method to move through the adoption curve. Finally, in year 3, we will begin to scope out an entrance into the Property Management market. We will start doing customer interviews to validate the Property Management specific problems and determine what features are required in this market and what our strategy will be for entrance.

#### **Financial Projections**

Revenue: 10000 units x \$350 = \$3.5 million

Marketing costs: \$500,000 (2 Additional Business development Professional + Expanded email list).

## Conclusion

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This marketing plan describes the marketing strategies that will be applied in introducing the HomeSense home monitoring product in the market. As illustrated in the paper, the smart home market is growing at a fast pace. A recent study revealed that 54 percent of current homeowners in 2018 expressed interest in buying a smart home device. The demand for smart home solutions is driven by factors such as time and cost saving and convenience. The demand is highest among people aged between 20 – 50 years.

In developing this marketing plan, we started by doing market research through a survey in order to identify the customer needs, the smart home products that are already in the market. Based on the survey results, we started with the big idea of taking advantage of the growing popularity of the Internet of Things (IoT) and creating an innovative product that was attractive to the typical consumer in helping them simplify their day-to-day lives. We identified there are many players in the home automation business providing a wide range of products in specific areas such as smart security and remote monitoring and control systems. Through the survey, we identified that customers were concerned about high utility bills and lack of a method for tracking consumption of electricity and water.

Based on these needs, we created the HomeSense product that would enable homeowners to track energy and water consumption. Upon carrying out further research, a fault detection feature was added in the product in order to differentiate it from existing solutions and to strengthen the value proposition. This decision was informed by the concern among consumers about the lack of a method of detecting faults such as leak and breaks before they become big problems.

We initially started with a broader view of the market segments to target which included residential homeowners, property management companies, and the industrial market and the department of defense. However, we narrowed our focus down to the residential home market which was identified to offer the biggest growth opportunities. The value proposition of the HomeSense product for this market is money saving on utility bills, real-time monitoring, and control of devices, and fault detection of leaks and breaks to avoid major problems.

While the smart home market is growing and the competitive landscape is small, we decided to take a narrow marketing strategy approach to get our first 1000 customers. This tactic will allow us to test our assumptions and be flexible in our strategy. Based on year 1 performance we can either continue with our year 2 and year 3 projections or pivot earlier than expected to property management if we see higher growth opportunities. However, we believe that based on customer interviews and validation that our initial market strategy and targeting of our ideal customer will allow HomeSense to eventually be the leader in the home utility consumption monitoring market.

## Appendix A

### Research Log:



#### *Market Segment Selection Learning:*

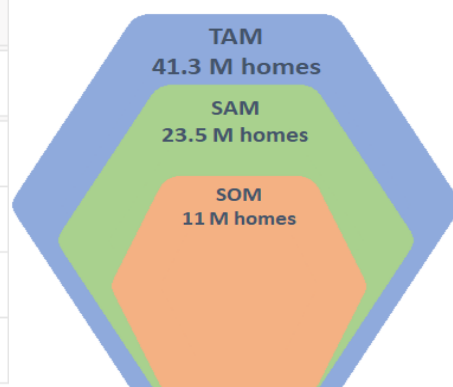
We initially started with both Residential and Property management as our primary markets. Both of these had good value propositions and HomeSense addressed assumed pain points in those segments. But based on the insights from professor, we further filtered it down to Residential because of the following learning,

1. Limiting the Marketing budget. This was important learning because we started with an assumption of unlimited budget. But limiting the budget influenced a lot of decisions throughout the plan
2. Difficulty in validation of pain points in the Property management market.
3. We initially started with the assumption that the product in terms of savings numbers would be more attractive to the property management market but we soon realized that it is much harder to sell technology products in that market due to the slow technology adoption rate.
4. The size of investment for the customers in the property management market is quite large and we do not have the data in terms of savings to back the product to justify that investment from customers.

#### *Market Sizing and Target Learning*

##### Global Comparison - Revenue

Top 5	
 United States	US\$27,649m
 China	US\$20,889m
 Germany	US\$4,824m
 United Kingdom	US\$4,808m
 Japan	US\$4,780m



Sizing the market for HomeSense was one of the most challenging aspects of the marketing plan. We initially started with the top-down strategy to size the market. Our TAM of 41.3 M was all homes that had a smart home device and SAM of 23.5 M homes was all the homes with an energy management related smart home device. We then assumed that 50% (now seems overly optimistic) of SAM would be SOM. We learnt the following from this strategy,

1. As soon as we started limiting the budget reaching 11 million customers seemed very far-fetched and unrealistic.



2. Given this is a new technology investing in marketing to 11 million customers was risky. We learnt to think about testing the product on a much smaller audience first and also based on the persona creation realized that the product would only be convincing once we have saving data.
3. The numbers should not have been represented in terms of number of homes but in terms of revenue based on product price.

Based on recommendation from the professor, we then switched to a bottom up strategy and made getting to the first 1000 customers a priority in year 1. We first looked at customers who would be interested in saving energy and where we would find them. Energy providers were the answer to that question. We then designed a bottom up strategy to get to the 1000 customers. Customers enrolled in energy rebate programs that the energy providers are promoting already fit the persona of the customers we were looking for. This was also attested via customer interviews. We were also hence able to align the sizing with the demand generation funnel making sizing realistic and accurate.

## Appendix B

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### Customer Interview Notes

#### Personal Interview

Name: Ryan

Profession: Engineer.

Age group: 25 - 40

Homeowner: Yes

Questions:

Do you track energy consumption?

Yes

Can you explain how you track energy consumption?

I look at the utilities bill. Try to see when the usage was high and try to remember what I did that day to figure out what might have consumed extra power

Do you try to change your behavior after you figure out the reason? If so, how?

I try to check and turn off the Nest or lights when I am not actively using them. For example I turn off the heat and lights when I am not home.

Why do you use a nest?

I got it on sale from PGE. I think I save about \$8 on my electricity bill because of it. I also like the convenience of asking Alexa to turn on my heat when I'm in bed in the morning if it gets too cold.

Would you be interested in buying a product that gave you real-time energy consumption data?

Then I explain the technology

Yes.

## Additional Personal Interviews Notes

### Interview 1

Has nest

Homeowner

Low 40s

Uncertainty about utility bills

Looking to switch to Ekobee due to integration with Apple Home

Always has the newest apple devices and up to date on technology trends

Would be very interested more information about energy/water usage

### Interview 2

Has nest

Low 40s

Cares more about look of smart devices and ease of use

Stays up to date with owned technology but doesn't rush to get the newest device

Would be somewhat interested in monitoring technology if it was easy to use

### Interview 3

Has nest

Late 30s

Knows about Sense and wants to buy one

Family member has a Sense and has been liking it

Says Sense is not always accurate or knows what appliance is on

Only reason he hasn't bought a Sense is he doesn't want to install it and mess with electrical panel

### Interview 4

Homeowner/Architecture

Has sense

Late 40s

Care about energy and looking for latest smart devices and ease to use

Says Sense is not always accurate or knows what appliance is on

She watched her bill and tried to monitor it, but one day she realized the water usage was more than average after a week she found out there was a leak in the bathroom that cost her a lot.

Other Points:

Some questions we missed in some of the interview but later realized would have been helpful

Do you pay or look at the energy bill every month?

This would help find if the person who is into buying the product actually looks at the energy bill. Who in the family does that to get a better idea of the target customer.

Do you consciously make changes to changes to your behavior to save energy? If yes could you give an example of how?

This would help see if the product feature offering actionable suggestions is something that might be attractive to the customer.

## Customer survey

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The summary of the survey findings is shown in the table below. One of the main findings is that factors that influence a person's response towards the product include age, home ownership status, and previous experience with smart devices. As shown in the table, people below 18 years expressed no interest in the product unlike those aged above 18 years majority of whom expressed interest in the product. One homeowner Aged 35 years indicated that he gets energy saving information from PGE and a refund for the energy saving during prime time. Generally, all other respondents who have smart home devices do not have a way of monitoring energy consumption of the devices. Most of respondents who own a smart home product expressed interest in the energy monitoring solution.

House	Respondent	Age	Smart home products	Remarks
1	Owner	35	Thermostat	No solution to show energy consumption – Portland General Electricity (PGE) provides energy saving info and refunds for energy saving during prime time
2	Tenant	29	N/A	No interest
3	Tenant	32	N/A	No interest
4	Wife	Below 35	Thermostat	No interest
5	Tenant	Above 25	Thermostat	Interested
6	Tenant	Above 25	Thermostat	Interested
7	Owner	Above 30	sense	Interested
8	Wife	Above 18	Alexa	energy monitoring solution – interested
9	Owner	Above 18	Thermostat	No energy monitoring solution – interested
10	Owner	Above 18	Thermostat	No energy monitoring solution – interested
11	Owner	Above 18	N/A	Not interested
12	Owner	Above 18	N/A	Not interested

## Customer Survey

### 1. What is your age?

- ☐ 18-24
- ☐ 25-34
- ☐ 35-44
- ☐ 45-54
- ☐ 55-64
- ☐ 65+

### 2. What is your gender?

- ☐ Male
- ☐ Female

### 3. Are you Owner or tenant?

- ☐ Owner
- ☐ Tenant

### 4. How comfortable are you with technology?

- ☐ Extremely comfortable, I would consider myself to be an early adopter
- ☐ Very comfortable
- ☐ Moderately comfortable
- ☐ Not at all comfortable

### 5. How you describe your understanding of smart home?

- ☐ Very strong understanding
- ☐ Somewhat understanding
- ☐ Not really

### 6. How smart is your home?

- ☐ Very smart, 10+ smart devices are installed
- ☐ Somewhat smart, 5-10 devices are installed
- ☐ Not many, 1-5 smart devices are installed

### 7. What type of smart home you have?

- ☐ Nest
- ☐ Alexa
- ☐ Other

**8. How important is it to be connected to your home?**

- ☐ Extremely important
- ☐ Very important
- ☐ Not very important

**9. Do you track energy consumption?**

- ☐ Yes
- ☐ No

**10. Can you explain how you track energy consumption?**

- ☐ Looking to utilities bill
- ☐ See when usage time
- ☐ Other

**11. Which of the following would you want to be alerted of?**

- ☐ If my smoke alarm is activated
- ☐ If a door or window is opened
- ☐ If someone enters your property
- ☐ If have a leak
- ☐ Other (please specify)

**11. How likely are you to consider having your home professionally monitored?**

- ☐ I do this currently
- ☐ Extremely likely
- ☐ Very likely
- ☐ Not likely

**12. Would you like to pay for smart home monitor?**

- ☐ Yes
- ☐ No

**13. What areas of your home would you like to have more control of?**

- ☐ Energy usage
- ☐ Security
- ☐ Lighting
- ☐ Temperature
- ☐ Locks
- ☐ Leaking
- ☐ Other

**14. Would you like your home to be smarter or more connection?**

- ☐ Yes
- ☐ No

**15. How likely are you to purchase a smart home product within the next 12 months?**

- ☐ Very Likely
- ☐ Moderately likely
- ☐ Not likely

## Learning

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1. Energy providers are an effective channel to market this.
2. Customers care about small savings even if they can afford not saving. It feels like free money and an achievement.
3. 18- 25 age group people are not really interested about the monitor from a money saving perspective.
4. 25-35 age group people like the idea but may be conservative about spending money on a device for tracking energy consumption.
5. Installation of devices in electrical panels sounds daunting to people.
6. Homeowners are confused and/or frustrated with their utility bills.
7. Homeowners like the look of smart devices in their homes over legacy devices (primarily thermostats).



## Critical Assumptions and Validation

Assumption	Validation
Customers want to save \$ on utility costs	Interviewees bought into Nest and other smart devices to save even small amounts of money (\$5-\$10 per month).
Customers care about the granularity of the information the product provides	In a lot of the interviews the customers described the process of looking at the utility bill and trying to remember what they did that day to know what consumed the energy.
Homeowners are willing to install device	Installation was one interviewee's biggest hesitation. We will work with energy providers to provide installation offers.
Homeowners want fault detection	Not thoroughly validated but had an Interviewee describe an example of a flood that wasn't found soon enough that cost ~\$5000 to fix.
Energy providers will partner with us	Nest has partnered with 50+ energy providers across the country. Energy providers already have rebate programs in existence.
Homeowners with smart devices will be interested in an additional smart device	Need to validate this.

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